# Part 1 General

# Section Includes

## Essential® Double Hung window complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, jamb extension, sheet rock return, j-channel, standard or specified anchors, trim and attachments.

* 1. **Construction Specification Institute (CSI) MasterFormat Numbers and Titles**

## Section 01 33 00 – Submittal Procedures: Shop Drawings, Product Data, and Samples

## Section 01 62 00 – Product Options

## Section 01 25 15 – Product Substitution Procedures

## Section 01 65 00 – Product Delivery

## Section 01 66 00 – Product Storage and Handling Requirements

## Section 01 71 00 – Examination and Preparation

## Section 01 73 00 - Execution

## Section 01 74 00 – Cleaning and Waste Management

## Section 01 75 00 – Starting and Adjusting

## Section 01 76 00 – Protecting Installed Construction

## Section 06 22 00 – Millwork: Wood trim other than furnished by door and frame manufacturer

## Section 07 92 00 – Joint Sealants: Sill sealant and perimeter caulking

## Section 08 71 00 – Door Hardware: Hardware other than furnished by door and frame manufacturer

## Section 09 90 00 – Paints and Coatings: Paint and stain other than finish

* 1. **References**

1. ASTM, International:
2. E283: Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
3. E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference
4. E547: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls, by Cyclic Air Pressure Difference
5. E2190: Standard Specification for Insulating Glass Unit Performance and Evaluation
6. C1036: Standard Specification for Flat Glass
7. E2112: Standard Practice for Installation of Exterior Windows, Doors, and Skylights
8. North American Fenestration Standard (NAFS) - American Architectural Manufacturer’s Association/Window and Door Manufacturer’s Association/Canadian Standards Association (AAMA/WDMA/CSA 101/I.S.2/A440):
9. AAMA/WDMA/CSA 101/I.S.2/A440-17: NAFS: North American Fenestration, Standard/Specification for windows, doors, and skylights
10. Window and Door Manufacturers Association (WDMA)
11. WDMA I.S.4: Industry Standard for Water Repellent Preservative Treatment for Millwork
12. WDMA I.S.2: Hallmark Certification Program
13. Insulating Glass Certification Council (IGCC) and Fenestration Glazing Industry Alliance (FGIA) Glass Products Council (GPC)
14. Fenestration Glazing Industry Alliance (FGIA) – note: AAMA combined with IGMA and formed FGIA as of 08/01/2019
15. AAMA 2605: Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels
16. National Fenestration Rating Council (NFRC):
17. NFRC 101: Procedure for Determining Fenestration Product Thermal Properties
18. NFRC 200: Procedure for Determining Solar Heat Gain Coefficients at Normal Incidence
19. Window Covering
20. WCMA A100.0: American National Standard for Safety of Window Covering Products

# Submittals

## Shop Drawings: Submit shop drawings under provision of CSI MasterFormat Section 01 33 00.

## Product Data: Submit product data for certified options under provision of CSI MasterFormat Section 01 33 00. Product performance rating information may be provided via quote, performance rating summary (NFRC Data), or certified performance grade summary (WDMA Hallmark data).

## Samples:

### Submit corner section under provision of CSI MasterFormat Section 01 33 00.

### Specified performance and design requirements under provisions of CSI MasterFormat Section 01 33 00.

# Quality Assurance

## Requirements: consult local code for IBC [International Building Code] and IRC [International Residential Code] adoption year and pertinent revisions for information on:

### Egress, emergency escape and rescue requirements

### Basement window requirements

### Windows fall prevention and/or window opening control device requirements

# Delivery

## Comply with provisions of CSI MasterFormat Section 01 65 00

## Deliver in original packaging and protect from weather

# Storage and Handling

## Store window units in an upright position in a clean and dry storage area above ground to protect from weather under provision of CSI MasterFormat Section 01 66 00

# Warranty

# **The following limited warranty is subject to conditions and exclusions. There are certain conditions or applications over which Marvin has no control. Defect or problems as a result of such conditions or applications are not the responsibility of Marvin. For a more complete description of the Marvin limited warranty, refer to the Complete and current warranty information is available at marvin.com/warranty.**

## Clear insulating glass with stainless steel spacers is warranted against seal failure caused by manufacturing defects and resulting in visible obstruction through the glass for twenty (20) years from the original date of purchase. Glass is warranted against stress cracks caused by manufacturing defects from ten (10) years from the original date of purchase.

## Hardware another non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

# Part 2 Products

# Manufactured Units

## Description: Essential® Double Hung and related stationary or picture units as manufactured by Marvin Windows and Doors; Roanoke, Virginia.

# Frame Description

## Interior: Pultruded reinforced fiberglass (Ultrex®), 0.070 inch (2mm) thick

## Frame width: 3 3/32 inches (79mm)

## Jamb depth: 2 inches (51mm)

## Frame Expander accessory is an insert kit shipped as ready-to-install.

### Insert kit includes four fabricated frame expander components, including head-jamb, sill and both jamb components.

### Included in both 1” and 3” frame expander options.

# Sash Description

## Pultruded reinforced fiberglass (Ultrex®), 0.077 inch (2mm) thick.

## Composite sash thickness: 15/16 inch (24mm)

## Sash Options:

## Equal or Unequal Sash

## Cottage Style: Sash divided 2/5 over 3/5

## Reverse Cottage Style: Sash divided 3/5 over 2/5

### Operating sash tilt to interior for cleaning or removal

# Glazing

## Select quality complying with ASTM C 1036. Insulating glass SIGMA/IGCC when tested in accordance with ASTM E 2190. STC/OITC ratings are tested to the stated performance level in accordance with ASTM E 90-09.

## Glazing Method: Insulating glass

## Glass fill: Air with capillary tubes, Argon

## Glass Type: Low E1, E2, E3, or E3/ERS

## Glass Type Options: Obscure Glass or California Fire Glass (Annealed exterior and tempered interior glazing configuration), Rain Glass, Glue Chip, Narrow Reed, Reed, Frost, Bronze Tint, Gray Tint, Green Tint.

## Glazing Seal: Silicone bedding at exterior and a glazing boot to interior

## Perimeter Spacer: Default color is mill finish (stainless). An optional black perimeter spacer color is available for all interior color selections.

## Glazing Option: STC/OITC upgrade

# Mulling

## Standard Mulling

### Ribbon mull limits: 6 wide by 1 unit high; Rough Opening not to exceed 114” x 78” (2896mm x 1981mm)

### Stacked mull limits: 1 wide by 5 unit high; Rough Opening not to exceed 60” x 96” (1524mm x 2438mm)

### Multi-Wide/Multi-High mull limits: 5 units wide by 5 units high: Rough Opening not to exceed 72” x 96” (1829mm x 2438mm)

## Reinforced Mulling

### Ribbon mull limits: 6 wide by 1 unit high; Rough Opening not to exceed 114” x 78” (2896mm x 1981mm)

### Stacked mull limits: 1 wide by 5 unit high; Rough Opening not to exceed 60” x 96” (1524mm x 2438mm)

### Multi-Wide/Multi-High mull limits: 5 units wide by 5 units high: Rough Opening not to exceed 96” x 96” (2438mm x 2438mm)

# Finish

## Exterior: Ultrex with a cross-head extruded acrylic organic coating system. Meets AAMA 624-10 requirements.

## Interior: Ultrex with a cross-head extruded acrylic organic coating system.

## Color: Stone White exterior with Stone White interior, Pebble Gray exterior with Stone White interior, Bronze exterior with Stone White interior, Cashmere exterior with Stone White interior, Gunmetal exterior with Stone White interior, and Ebony exterior with Stone White interior. Bronze exterior with Bronze interior, Gunmetal Exterior with Gunmetal interior, Ebony Exterior with Ebony interior. (Split finishes are not available for Dark Interior options)

# Hardware

## Balance System:

### Coil spring block and tackle with nylon cord, glass filled nylon shoe and zinc locking mechanism

## Sash Lock:

### Zinc die cast contoured sash lift

### Standard Color: White on Stone White interior, Oil Rubbed Bronze on Bronze interior, Matte Black on Ebony interior

### Two (2) locks installed on units with a rough opening width greater than 30 inches

### Optional Color: White, Bright Brass, Satin Nickel, Oil Rubbed Bronze, Almond Frost, Matte Black

## Sash Lift:

### Zinc die cast contoured sash lift

### Standard Color: White, Bronze, Ebony (Matches interior finish)

### Optional Color: White, Bright Brass, Satin Nickel, Oil Rubbed Bronze, Almond Frost, Matte Black

## Top and Bottom Tilt Latches: Ergonomic tilt latches attached to the upper corners of the top and bottom sash for easy tilting and sash removal

### Top Sash Tilt Latch Colors: White on Stone White interior, Black on Bronze, Gunmetal and Ebony interior

### Bottom Sash Tilt Latch Colors: White, Bronze, Gunmetal, or Ebony (Matches interior finish)

1. Sash Limiters: Available as a field applied option to limit sash travel. ABS material and beige in color with Stone White or Matte Black screws. Applied in the balance tube channel.

## Factory Installed Window Opening Control Device for operating units per ASTM F2090-17: a system consisting of an acetal lever housed in an acetal shell on each stile of the top sash.

### Available on all sizes

### Color: White on Stone White interior and Black on Bronze, Gunmetal, and Ebony interior

# Weather Strip

## At Sill: Combination foam filled bulb – Color: Black

## At Bottom Sash: Combination foam filled bulb – Color: Black

## At Top Sash: Combination hollow vinyl bulb – Color: Black

## At Interlock: Rigid ABS with flexible hollow bulb – Top Sash Cover Color: Black

# Jamb Extension

## Standard 2 inch jambs. Optional factory-installed jamb extension: 4 9/16 inch (116m) and 6 9/16 inch (167mm)

## Available in Stone White, Bronze, Gunmetal or Ebony. Default color will match the unit interior selection.

### Split finishes are not available for Dark Interior options.

### Stone White jamb extension is available for all interior color selections.

# Insect Screen

## Factory-installed full screen

### Screen mesh: 18 by 16 – Charcoal fiberglass

## Rolled form aluminum frame finish:

### Color: Stone White, Pebble Gray, Bronze, Cashmere, Gunmetal, Ebony

## Optional half screen available.

# Grilles-Between-the–Glass (GBG)

## Manufactured from aluminum in a 23/32 inch (18mm) wide contoured profile placed between the two panes of glass

## Colors

### Interior: White, Bronze or Ebony (Matches unit interior finish)

* + - * 1. Split finishes are not available for Ebony, Gunmetal, and Bronze interior colors

### Exterior: White, Pebble Gray, Bronze, Cashmere, Gunmetal, or Ebony

* + - * 1. Customer selectable exterior color on stone white interior units

## Patterns:

### Rectangular

### 9 lite Prairie cut with 4” DLO corners

### 6 lite top or bottom Prairie cut with 4” DLO corners

### 6 lite left or right Prairie cut with 4” DLO corners

### Cottage style up to 2H with specified DLO height (3” min)

### Size limitations may apply to Prairie and Cottage lite cut availability

# Accessories and Trim

## Installation Accessories:

### Factory-installed vinyl nailing fin/drip cap at head, sill and jamb.

### Installation brackets for masonry applications

### Mullion kit: standard mullion kit for field assembly of related units available in horizontal, vertical and 2-wide and/or 2-high configurations. Kit includes instructions, interior and exterior mull covers, kerf weather strip, mull plugs and brackets.

### Sheet rock return

### Available colors: Stone White, Bronze, Gunmetal, or Ebony. Default color will match unit interior selection. Stone White is available for all interior color selections.

### J-channel

### Available Colors: Stone White, Pebble Gray, Cashmere, Bronze or Ebony

### Flush Fin

### Available Colors: Stone White, Pebble Gray, Cashmere, Bronze, Gunmetal, or Ebony.

### 3/4 inch Receiver

### Available Colors: Stone White, Bronze, Gunmetal, or Ebony. Default color will match unit interior selection. Stone White is available for all interior color selections.

### Frame Expander (1 inch or 3 inch option available)

### Available Colors: Stone White, Pebble Gray, Cashmere, Bronze, Gunmetal, or Ebony

## Exterior Casing:

### Non-integral to the unit. Fastened to the exterior wall with barb and kerf.

### 2 inch Brick Mould available as a full surround or with sill nosing.

### 3 ½ inch Flat Casing available as a full surround or with sill nosing. Also available with 1 inch Ranch Style header and sill overhang.

### Available colors: Stone White, Bronze, Pebble Gray, Cashmere, Gunmetal, and Ebony.

# Part 3 Execution

# Examination

## Verification of Condition: Before installation, verify openings are plumb, square and of proper dimensions as required in CSI MasterFormat Section 01 71 00. Report frame defects or unsuitable conditions to the General Contractor before proceeding.

## Acceptance of Condition: Beginning installation confirms acceptance of existing conditions.

# Installation

## Comply with CSI MasterFormat Section 01 73 00.

## Assemble and install window/door unit(s) according to manufacturer’s instruction and reviewed shop drawing.

## Install sealant and related backing materials at perimeter of unit or assembly in accordance with CSI MasterFormat Section 07 92 00 Joint Sealants. Do not use expansive foam sealant.

## Install accessory items as required.

## Use finish nails to apply wood trim and mouldings.

# Field Quality Control

## Remove visible labels and adhesive residue according to manufacturer’s instruction.

## Unless otherwise specified, air leakage resistance tests shall be conducted at a uniform static pressure of 75 Pa (~1.57 psf). The maximum allowable rate of air leakage shall not exceed 2.3 L/sm2 (~0.45 cfm/ft2).

## Unless otherwise specified, water penetration resistance testing shall be conducted per AAMA 502 and ASTM E1105 at 2/3 of the fenestration products design pressure (DP) rating using “Procedure B” – cyclic static air pressure difference. Water penetration shall be defined in accordance with the test method(s) applied.

# Cleaning

## Remove visible labels and adhesive residue according to manufacturer’s instruction.

## Leave windows and glass in a clean condition. Final cleaning as required in CSI MasterFormat Section 01 74 00.

# Protecting Installed Construction

## Comply with CSI MasterFormat Section 07 76 00.

## Protecting windows from damage by chemicals, solvents, paint or other construction operations that may cause damage.

End of Section